

G. E. RANDALL

Manager, IBM Research Center Library
Yorktown Heights, New York

Interlibrary Cooperation in an Industrial Environment

Interlibrary cooperation in an industrial environment can be described in one short statement—"It ain't easy!" It takes two to cooperate and many industrial libraries are as individual and lonely as a male chauvinist at a NOW convention.

The average special library (and industrial libraries belong to this genre) has a minimal collection and is fortunate when it has a professional member on its staff. When a special librarian talks about cooperation within the hearing range of university, governmental or large public library librarians, it is usually heard as a discourse on a one-way avenue of access to the resources and services of the larger institutions.

I can understand this reaction. I was in Oak Ridge when we AEC librarians raided the resources of the University of Tennessee so heavily that the librarian, Bill Jesse, almost broke off diplomatic relations with us. In the twenty-five years since then, I, as an industrial librarian, have been aware of the impact a special library or a group of special libraries can make on the resources of any neighboring big brother and have sought ways of minimizing the onslaught.

One obvious way for industrial librarians to ease the burden on the nearest large library is to increase the use of the resources and services of other special libraries. I do not want to raise unduly the hopes of the university librarians that the future cooperation among industrial librarians will completely eradicate our demands on them. No industrial library serving 300–400 chemists, mathematicians, engineers or physicists could justify the acquisition of a complete set of the *Philosophical Transactions of the Royal Society* dating back to the seventeenth century. Even if there is a plethora of industrial libraries in a given geographic area there is no possibility that one of

them will acquire such an esoteric set. And for the occasional request for an eighteenth- or nineteenth-century article, it will still be necessary to tax the resources of the larger libraries.

Cooperation among industrial libraries "ain't easy" as I announced earlier. When North American Aviation is competing with Lockheed for an air force contract, it is not likely that their librarians will join forces to construct a union list of their combined periodical holdings, even if they are in the same geographic area. There are, however, a number of industrial organizations with geographically separated departments, divisions or laboratories, each of which is given literature support by its own library. These multilibrary corporations include Bell Laboratories, General Electric, Exxon, General Motors, Shell and IBM. The potential for cooperation exists among the libraries of these corporations. In some cases it is mandated; in other cases it is ignored. But even among those libraries where cooperation is encouraged, the benefits are seldom exploited much beyond a minimal level.

In this presentation I shall review in some detail the cooperative activities pursued by the IBM libraries. It will not be a pitch on "how we run our libraries good," but rather a considered review of the problems we have encountered (and these are legion), the penalties we have had to pay (and these are not inconsiderable) and the benefits we have experienced (and these are numerous).

The IBM Library Environment

In the United States, IBM has at least twenty-five different locations—each with its own library. These range from almost miniscule collections with 200 or 300 journal subscriptions and a thousand or so books to the library of the T. J. Watson Research Center which is large enough to be socially acceptable in any library community. These libraries provide the literature support required by the laboratories and manufacturing plants dispersed from Vermont to California, from New York to Florida. Administratively, these libraries report to a number of divisions with such titles as Advanced Systems Development Division, General Products Division, Office Products Division, Research, and Systems Development Division.

IBM's policy not only permits a generous degree of divisional independence but encourages local autonomy. Given this condition, it is not surprising that each library is unique and different. What is unexpected is the extensive cooperation and coordination which does exist among the libraries. I believe this is attributable to a number of factors. First, there is the professional bond among librarians, which probably explains the tighter cohesiveness and better awareness of who is who and who is doing what that exists among the

librarians than among the other support and service groups such as the maintenance people, the purchasing agents or the accounting groups. The professional bond is strengthened by the dependence of each on his or her counterparts at other locations. To do our job locally, we must call frequently on our counterparts at San Jose, Boca Raton, Endicott, Burlington, Owego or White Plains. Our lines of communication are facilitated by access to the company telephone tie-line, to a librarians' newsletter and to occasional company library conferences.

The Tools of Cooperation

The areas of cooperation in an industrial environment are identical to those in the public or academic fields. The cooperative tools we use in IBM include a union list of serials and a centralized purchasing and cataloging service, both provided by the Research Center Library, and a corporate-wide current awareness and retrospective searching service provided by ITIRC.

As a backdrop for the subsequent discussion on the problems, penalties and benefits of cooperation, let us look in some detail at these three tools.

IBM UNION LIST OF PERIODICALS

The IBM union list is a by-product of the Research Center Library's computer record of periodical holdings and subscriptions. Like several of our computer-based activities, it is derived from a punched card record which could be printed out on the 407 or manipulated by a 1401 computer.

Before being housed in our Saarinen-designed showcase in upper Westchester County, the Research Division was dispersed among four locations ranging from Poughkeepsie to Ossining. The library collection was split among these locations and a punched card record was constructed to show which libraries held which journals. Although the library was less than ten years old in 1960, the information requirements of the research staff had resulted in the acquisition of the largest collection in the corporation. With a minimal amount of work it was possible to incorporate the serial holdings of the upstate New York IBM libraries in the research records.

Acceptance of the union list has warranted revision and republication over the succeeding twelve years. It presently includes the holdings of 3,400 titles by 30 libraries. The information in the union list includes complete title information, an abbreviated title card which carries the CODEN, country of publication, the language of publication and frequency of publication, cross reference cards, title history cards and the holdings record for each partici-

pating library. The computer record from which the union list is compiled also includes subscription information for the Research Center Library. This information is excluded from the union list. The record is on tape and is run on the 360/91 with a SNOBOL program. The various subprograms enable us to select various types of information from the basic record with output as either punched cards or printed lists. We are able, for example, to print the titles and holdings of any participating library to assist it in updating its record. We also produce our Kardex check-in cards from the tapes and the list of titles to be renewed.

CENTRALIZED TECHNICAL PROCESSING

In 1970 the Research Center Library undertook centralized processing functions—including purchasing, receiving, cataloging and preparation of the books for use for four other IBM libraries. The products supplied include traditional catalog cards; circulation cards; a weekly status report of all books on order, in process and shipped; a weekly new addition list; a shipping list; and an abbreviated computer-produced shelflist with an author index which is updated on a quarterly basis.

A 360 model 30 is used to produce the processing record which is termed PIL (Processing Information List). We have used the program for over ten years. Included in the PIL record are a 30-character call number; a 17-character author; and a 21-character title, vendor identification, purchase order number, ordering library, and the date a book goes into each phase of processing. The processing phases recorded in PIL include ordering, claimed, received, cataloging, and completion of processing. By-products of the PIL program are the spine label, book pocket label, circulation card, a daily status report, claim notices to vendors and a list of items overdue in each phase. Although the program was written to trace books through the processing activity, we also include photocopy orders, journal subscriptions, as well as back issues and reports in the record.

ITIRC

ITIRC provides a centralized computer-based current awareness service and a retrospective searching service for all subscribing members of the corporation. The data base includes all IBM internal reports, IBM patent disclosures, IBM operating and systems manuals, the NTIS tapes for external reports, and the Engineering Societies COMPENDEX for the open literature. Each subscriber describes his area of interest. From this a profile is constructed which not only includes keywords defining his subject interest but names of authors and institutions who produce work of interest to the

subscriber. The program also enables the requester to exclude certain topics. New tapes are searched each week and the subscribers are sent a printout of the bibliographic information and abstracts of the new items which match their profiles. ITIRC will provide microfiche or hard copy of the IBM material and the NTIS reports; copies are not provided of the articles in the open literature.

The service is offered as an adjunct to that provided by the IBM library responsible for meeting the information requirements of the user rather than a service in competition with the local library. Each notice suggests that the recipient contact his library for the articles of interest to him. Our experience with these three examples of library cooperation has made us acutely aware of a number of the problems and penalties resulting from cooperation. It also has shown us, however, opportunities for benefit.

Problems

A major problem is the financing of library cooperation. In rare instances the library service of a multidivisional corporation is a part of the corporate headquarters; more frequently it is an organizational part of the unit to which it provides the information service. The Bell Laboratory Library structure reports to a corporate officer; IBM's ITIRC is a corporate headquarters function. The IBM Research Center Library, more traditionally, reports to local management as does each of the IBM location libraries.

When the cooperative information service is part of the corporate headquarters, the cost of the service is charged, at least at IBM, to the receiving organizational unit. Although there is justification for this procedure, it does provoke problems. Charging a user for a service provides a built-in control limiting the amount of the service requested to the recognized value of that service. During its introductory years, when ITIRC was funded from the corporate headquarters budget, it was used without regard for cost. When ITIRC became a cost center there was a lot of second thinking, and there was a change in the demands placed on it. Judging from the subsequent year-by-year decrease in unit costs of ITIRC service, the valid uses have increased.

When the ITIRC costs were charged to the using locations, the financial crunch on these local library budgets provoked an emotional reaction from many of the IBM libraries and librarians. The new ITIRC charges, in many cases, were paid out of that library's budget. Some of us found that these costs amounted to a very appreciable proportion of our book and subscription budget while the services accounted for a relatively small fraction of the total demands on the library. We reacted emotionally and intuitively because we

lacked the information to make a judgment based on fact. We did not know our costs. If academic and public libraries have a dearth of cost information, the industrial library sector has an absolute void. Even worse—and here we are in good company with our big brothers—we have no concept of the value of information. The adverse reaction of individual librarians receiving centralized services and then being charged for them will continue until, and probably long after, good cost data are available and some methods are devised for realistically assessing the value of information services.

When a cooperative service is provided by a library responsible for servicing a discrete audience, other problems of a financial or budgetary nature arise, even when a charge is made for the service. We have experienced these problems with both our union list and our centralized processing service.

The IBM union list is a by-product of a computer-based periodicals record. We believe that the benefits we realize from the record of our subscriptions and holdings justify the computer application. The addition of the holdings records of other IBM libraries gives us access to a much larger resource which we tap on a daily basis. The other IBM libraries claim it is one of their more valuable tools in providing service to their clientele.

Creating and maintaining the records for other IBM libraries does take personnel time. The printing of a hundred copies of the resulting union list requires both computer and printing services over and above that required to meet our local needs. These requirements have been met without additional personnel, equipment or space. The library processing center does require additional personnel, and more people mean more space. The library is reimbursed by the recipients of the service for the actual cost of the services. But this does not alleviate the budgetary problem from management's viewpoint.

To put the problem in perspective, look at it from management's point of view. The IBM Research Center has a finite amount of space and corporate headquarters has given us a total head count which must not be exceeded. The mission of the center is to provide the research necessary for the manufacturing activities of the corporation. The library's objective is to provide the literature-information support required by the professional staff at the center.

Any dilution of the resources or services to the personnel of the division by providing services outside the division minimizes the amount available for the division. For example, the periodicals clerk works an honest forty hours per week. The time she spends updating the holdings of the other libraries is time she is not able to spend building a want list. We do have a backlog in binding because, in part, there are a number of volumes with missing issues.

The acceptance of the Library Processing Center's activities indicates we could extend the services to other libraries in the corporation and let them underwrite the cost. To do so, however, would require additional personnel, and added staff members mean more floor space. If either space or added personnel were available they would be used to accommodate additional research projects for which there is an acknowledged need.

Services in a research establishment are necessary to enable the research staff member to do his job. They are not built and supported, however, to increase the nonresearch activities of the division when there are other organizations in the corporation which are staffed and funded to provide inter-divisional services.

Penalties

I have limited the discussion of the problems of cooperative services to those of financing and staffing. There are other problems and some of them can be described as penalties which provoke problems. Among these are the loss of autonomy, the requirement to meet or accept standards, and the building of increased demands on a limited resource of collection and staffing.

When library cooperation results in the transfer of a function to a centralized activity, the donor library loses some of its autonomy as well as a degree of control over the services it is expected to provide. Discuss technical processing with an industrial librarian and you get a dire discourse on trouble which sounds like a contemporary revision of the Book of Job: vendors' services have deteriorated; turn-around time for book orders has nosedived from an unacceptable three weeks to an impossible six weeks; and as for cataloging, forget it. The books bought frequently are not covered by LC copy; the catalog cards, when they are available, are inconsistent and frequently in error. Cataloging costs are at an unprecedented high. You may weep in compassion, but do not offer to solve his problems by offering to do his ordering and cataloging for him in your technical processing center! You are immediately suspect as a scheming, monetary-minded knave threatening his autonomy, independence and ability to provide the level of service to which his clientele has become accustomed!

The threat of a centralized service to local autonomy should not be underrated. Special librarians are a proud lot and like being in control of their functions and services. As long as we are the big frog we do not mind the size of the pond. Subject us to interaction with other big frogs and no matter how much our pond is enlarged, our ego and job satisfaction are diminished.

Let someone else give us a union list of serials and his decision on title arrangement governs the order by which we arrange our periodicals. If we do

our own cataloging, we can understand and accept the vagaries of the resulting catalog record; insist that we accept external cataloging service and we become so critical of departures from LC practices that we sound like an applicant for a position as catalog reviser at the Library of Congress. Direct us to use an external, mechanized searching service and we complain that filters are being imposed between us and our clientele.

Standardization is another threat to the local autonomy of the industrial librarian. We make a fetish of claiming that the information requirements of each library's clientele are unique and that the organization of the resources and services rendered must be tailored to meet these requirements. This claim is based more on emotional reaction than on an evaluation of the facts. Frederick Kilgour, at the Ohio College Library Center, is able to accommodate the local desires for cataloging differences, as we are at IBM.

A centrally produced current awareness service, such as that provided by ITIRC, provokes problems. If the data base from which service is provided is larger than the collection of the host library, the service is going to build requests for items which are not in the collection. Give a library a fixed budget, engender requests which cannot be supplied from the collection supported by that budget and you promote ulcers in the responsible librarian.

More specifically, ITIRC uses the Engineering Societies COMPENDEX tapes as a source for the current awareness service on the open literature. The editors of *Engineering Index* (the basis of COMPENDEX) review several thousand American and European periodicals, many of which can charitably be described as esoteric from the viewpoint of the librarian who can subscribe to only 300-400 domestic journals. In addition, *Engineering Index* faithfully reports the proceedings of engineering conferences held in Yugoslavia, Poland, East Germany and Latin America. Enough "hits" are found between these announcements and the interests of the clientele of the underprivileged library so that the photocopy bill from the Engineering Societies Library threatens the library budget with magnificent overspending.

If one is the librarian in the situation, what does one do? Deny the user his request? Discontinue the announcement service? An easy answer is to get the budget changed to accommodate the additional demand. But as an industrial librarian with a couple of years experience let me suggest that it might be easier to clean the Augean stables than it is to get a divisional controller to augment the library budget allowance.

Benefits

Now that I have reviewed some of the problems and penalties of library cooperation in an industrial environment, let us get from under the cloud that

besets Al Capp's miserable character and consider some of the benefits which accrue special libraries which participate in cooperative activities. Many of these advantages or benefits are identical to those experienced by academic or public libraries.

The most obvious benefit is the expanded literature resource which is available to the participating libraries. No library can afford to be completely self-sufficient and the industrial library, with its smaller collection, depends heavily on other libraries to fill many of its literature requests. The IBM union list of periodicals gives each of the thirty contributing libraries access to the 3,400 titles which are listed in it. The union list is used extensively by the IBM librarians. At the IBM Research Library Center we do more than 2,000 pages of photocopy each month for other librarians, and we assume that this is a fraction of the total photocopying workload resulting from the use of this tool.

The union list does more than provide an in-company source of photocopy service. During the past three or four years the IBM libraries experienced the same economic belt tightening that has aged library administrators of public and university libraries. Subscription lists were chopped and binding programs curtailed. The installation librarian used the records of the union list as a guide to which journals he could drop, i.e., which titles he could discontinue retaining and binding without seriously endangering the services he could give his clientele.

Although we all work for the same company, each installation has its own area of activity and the library at each installation has built its collection to support the projects and interest of its personnel. Our occasional meetings, the visits to other locations, the tie-line telephone conversations have given each of us some comprehension of what the specialties of each of the libraries are. We look to the ASDD library for market forecasting, the corporate library for economics, the San Jose Research Library for organic chemistry. This informally developed area of cooperation is buttressed by the book holding record, produced by our library processing center. Nearly 100,000 volumes are recorded in this combined shelflist and the interlibrary loan traffic amongst the IBM libraries has been facilitated by its publication.

In addition to encouraging interlibrary use of resources, the centralized processing activity solves some problems which are not experienced by university libraries. One of the characteristics of an industrial library is that it is small. A number of our libraries buy only 300-400 books a year. This rate of acquisition does not justify, and the limited head count authorized the small libraries does not permit, the employment of a full-time cataloger. In these circumstances, the one professional dilutes his services by accepting the cata-

logging activity as an additional responsibility or by assigning the job to a clerical assistant.

Cataloging is a specialized activity and is best done when it can be made the complete and full-time assignment of a professional cataloger. Catalogers are people like the rest of us. To make effective use of their time the rate of acquisition should be a little larger than the number they can easily catalog. There are many clerical aspects of the cataloging routine and in a small activity it is customary for the cataloger to search for cataloging copy and do the filing of catalog cards. It is only when the volume warrants it that clerical support can be provided. Centralization of cataloging provides the volume necessary to warrant the use of a professional cataloger and to provide the clerical support necessary to enable the cataloger to do only the professional aspects of the function. This specialization results in—or should result in—a higher quality of cataloging than could be achieved in a small industrial library.

A centralized computer-based current announcement and retrospective searching service is a natural in an industrial environment. Providing this type of service includes the creation or purchase of the necessary data bases, access to a computer system and the necessary programming support to institute and maintain the service. This facility is beyond the capability of a single industrial library but it is an economic possibility for a consortium of libraries. The consortium can provide the necessary volume and the financing required.

The services provided by a centralized SDI activity such as ITIRC supplement and complement the information service the installation library can provide. The value and benefits vary from one location to another. It is most valuable at an engineering installation where the personnel are housed in buildings at a distance from the library. In such an environment it is not convenient for the engineers to spend a part of each day visiting the library, scanning the recently received journal issues or browsing the stacks to enable serendipity to lead them to all the information they always wanted to have about vacuum deposition but did not have the time to locate. Neither is it part of their tradition to use library resources in this fashion. My experience with engineers is that you either put the literature on their desk, preferably with pertinent passages underscored, or they cannot be bothered to use it.

For the personnel of such locations the current awareness service which provides citations to the contemporary literature which matches their interest profile builds library use. It is a necessary and viable method of keeping them current in their information resources. Even more important, it provides a filtering function which protects the engineer from exposure to more than he is able or willing to evaluate and assimilate.

Some time ago librarians believed it necessary to provide clientele with all of the information pertinent to their areas of interest. Some librarians are still trying to do this. In today's market there is a requirement for the librarian to protect his reader from the plethora of available information and limit it to the pertinent and appropriate. The computer in an ITIRC type service can assist in this.

I have mentioned that there are at least twenty-five IBM locations in the U.S. which support their personnel with libraries. There are a great many more which, because of their size or by the nature of their activities, do not require or cannot economically justify a separate library. The IBM employees at these locations do have access to the ITIRC services and can be kept advised of the literature which meets their information requirements.

Interlibrary cooperation in an industrial environment "ain't easy." There are a number of factors working against it. Parochial interests of local management and the desire for installation autonomy are limiting factors. The probabilities of success for interlibrary cooperation are enhanced when the service is provided from corporate headquarters rather than being offered on a voluntary, cooperative basis by the divisional or location libraries. Resistance to interdivisional cooperation is frequently based on emotional rather than factual considerations. What the entire library profession needs is a method of measuring the value of information. We pay lip service to the value, we believe in it, but we have not found a technique for assessing it.

In the areas where we have tried cooperation we have only superficially exploited it. The IBM union list of periodicals promotes the use of the serials collection at each location for the benefit of the personnel at other locations. The advantages and savings we have realized are only a small fraction of that which we could obtain if we had a mandated centralized control of our periodical resources. A centralized storage collection of serials providing overnight photocopy service could reduce local installation storage and copying costs.

There are problems and penalties of interlibrary cooperation in an industrial environment, but the benefits of voluntary cooperation, even though less than could be realized from a strong, mandated coordination, far outweigh the problems and penalties.